

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (Withdrawn) A method for simplifying the control of flow of a fluid in a fuel processor, the method comprising the steps of:

determining, from among a plurality of inputs for the fluid in the fuel processor, a first fluid input which requires the greatest precision of control of the rate of fluid flow;

regulating the rate of fluid flow at the first input based upon feedback from a sensor associated with the first fluid input, wherein such regulation occurs with a first time constant; and

regulating the rate of fluid flow at each of the remaining inputs based upon feedback from at least one sensor so that the flows satisfy at least one criterion selected from:

- i) having a regulatory time constant that is at least about three times greater than the time constant of regulation of the first flow; and
- ii) having a flow volume that is less than about 10% of the average flow volume of the fluid at the first input.

Claim 2 (Withdrawn) The method of claim 1 wherein the fluid comprises air, and the rate of fluid flow at the first input is regulated by controlling a compressor coupled to the first input.

Claim 3 (Withdrawn) The method of claim 2 wherein the first input flow comprises air for providing heat for a fuel reforming reaction.

Claim 4 (Withdrawn) The method of claim 2 wherein the first input flow comprises air for a combustor or burner that supplies the heat required to reform fuel in a fuel reformer selected from a partial oxidation reformer (POX), an autothermal reformer (ATR), and a "pure" steam reformer.

Claim 5 (Withdrawn) The method of claim 1 where the fluid comprises a gaseous or liquid fuel, and the input is supplied by one of a fuel compressor and a fuel pump.

Claim 6 (Withdrawn) The method of claim 1 wherein the fluid comprises liquid or gaseous water.

Claim 7 (Withdrawn) The method of claim 1 wherein the regulatory time constant for the remaining inputs is at least about five times greater than the time constant of the first input.

Claim 8 (Withdrawn) The method of claim 1 wherein the regulatory time constant for the remaining inputs is at least about ten times greater than the time constant of the first input.

Claim 9 (Withdrawn) The method of claim 1, wherein the flows of at least one fluid can be entered into a control algorithm without requiring coupling of the flows to each other in the computations required to control the system.

Claim 10 (Currently Amended) A fuel processor comprising:

 a fuel reforming unit having a fluid inlet for varying the rate of input of a first stream of a fluid into the fuel reforming unit;

 a hydrogen-cleanup unit having a fluid inlet for varying the rate of input of a second stream of the fluid into the hydrogen-cleanup unit;

 a fluid conduit for providing the fluid to a fuel cell, the fluid conduit having a fluid inlet for varying the rate of input of a third stream of the fluid into the fuel cell;

a first sensor associated with the fuel reforming unit;

a second sensor associated with the hydrogen-cleanup unit;

a third sensor associated with the fuel cell, wherein at least one of the first sensor, the second sensor, or the third sensor is not a fluid flow rate sensor; and

a control system regulating the rate of the first fluid stream based upon feedback from the first sensor, which determines, from among the fluid inlets of fuel reforming unit, the hydrogen cleanup unit, and the fluid conduit for the fuel cell, a first fluid inlet which requires the greatest precision of control of the rate of input of the fluid, the control system regulating the rate of fluid flow at the first fluid inlet based upon feedback from a sensor associated with the first fluid inlet, wherein such regulation occurs with a first time constant, the control system further regulating the rate of the second fluid stream and the third fluid stream based upon the feedback from the second sensor and

the third sensor respectively, wherein the second fluid stream and the third fluid stream are regulated so that the second fluid stream and the third fluid stream fluid flow at each of the remaining fluid inlets based upon feedback from at least one sensor so that the flows satisfy at least one criterion selected from: i) having a regulatory time constant that is at least about three times greater than the time constant of regulation of the first fluid stream [[inlet]]; and ii) having a flow volume that is less than about 10% of the average flow volume of the first fluid stream the fluid at the first inlet.

Claim 11 (Currently Amended) The fuel processor of claim 10, wherein the first sensor associated with the first fluid inlet comprises a fluid flow rate sensor.

Claim 12 (Original) The fuel processor of claim 10 wherein the fluid is air.

Claim 13 (Currently Amended) The fuel processor of claim 12 wherein the control system varies the rate of the first fluid stream fluid flow at the first inlet by controlling a compressor coupled to the first inlet.

Claim 14 (Original) The fuel processor of claim 13 wherein the air from the compressor is fed to a plenum, and from the plenum to a plurality of fuel processor components via at least one controllable valve.

Claim 15 (Cancelled)

Claim 16 (Currently Amended) The fuel processor of claim [[15]] 13 wherein the rate of input of the first fluid stream to the fuel reforming unit is controlled by varying the output of the compressor.

Claim 17 (Currently Amended) The fuel processor of claim 16 wherein the rate of input of fluid to the hydrogen cleanup unit and the fuel cell the second fluid stream or the third fluid stream is controlled by adjusting valves associated with the hydrogen-cleanup unit and the fuel cell.

Claim 18 (Currently Amended) The fuel processor of claim 10 further comprising:

a tail gas combustor having a fluid inlet for varying the rate of input of a fourth stream of the fluid, wherein the control system regulates the rate of each of the first fluid stream, the second fluid stream, the third fluid stream, and the fourth fluid stream fluid flow to the fuel reforming unit, the hydrogen cleanup unit, the fuel cell, and the tail gas combustor.

Claim 19 (Original) The fuel processor of claim 10 wherein the fuel reforming unit comprises a partial oxidation reformer.

Claim 20 (Original) The fuel processor of claim 10 wherein the fuel reforming unit comprises an autothermal reformer.

Claim 21 (Original) The fuel processor of claim 10 wherein the fuel reforming unit comprises a pure steam reformer.

Claim 22 (Currently Amended) The fuel processor of claim 10 wherein the hydrogen-cleanup unit comprises at least one of a water gas shift reactor[[],] and a preferential oxidation reactor.

Claim 23 (Original) The fuel processor of claim 10 wherein the fluid comprises water.

Claim 24 (Original) The fuel processor of claim 10 wherein the fluid comprises fuel.

Claim 25 (Original) The fuel processor of claim 10 wherein the control system varies the rate of fluid flow at the inlet by controlling a pump coupled to the first inlet.

Claim 26 (New) The fuel process of claim 10 wherein the feedback from the first sensor is a fuel flow rate or an air flow rate into the fuel reforming unit, or a temperature in the fuel reforming unit.

Claim 27 (New) The fuel process of claim 10 wherein the feedback from the second sensor is a temperature or a carbon monoxide concentration in the hydrogen-cleanup unit, or an air flow rate into the hydrogen cleanup unit.

Claim 28 (New) The fuel process of claim 10 wherein the feedback from the third sensor is an electricity production rate or an electricity demand rate.